2013 Spanish Lake Vegetation Control Plan

LDWF, Inland Fisheries

The water control structure in Spanish Lake continues to leak. Repairs are needed, but funds are limited. Meetings were attended in August 2011 at the Iberia and St. Martin parish government at which time Louisiana Department of Wildlife and Fisheries (LDWF) representatives asked the parishes for assistance in funding this project. They have agreed to split the cost for repairs on the structure. The parishes would come up with the match (in kind) for repairs and LDWF would pay for supplies. LDWF funding would come from federal grants that were approved in August of 2012. LDWF has contacted St. Martin and Iberia government officials to begin the bidding process to repair the structure. As of the end of 2012, no progress on the repairs of the structure have begun.

It is believed that the high volume of soft sediment deposits in the lakebed have been the underlying cause of fisheries management problems since impoundment. In 2000, an attempt to establish tape grass (*Vallisneria americana*) failed, as no plant growth was observed in the lake. The cause for the failure was suspected to be erratic water levels caused by the leaking control structure, lack of rainfall, suspended sediments and phytoplankton blooms.

Currently, Spanish Lake continues to have phytoplankton blooms throughout much of the year which precludes aquatic plant growth as stated in type maps from 2000-2006 and 2011. Overall, the lake is free of submerged aquatic vegetation. Moderate amounts of American lotus (*Nelumbo lutea*) were observed in two locations along the breakwater levees. Small amounts of water hyacinth (*Eichhornia crassipes*) were observed in the boat landing access channel. Emersed plant species observed along the shoreline were alligator weed (*Alternanthera philoxeroides*), maidencane (*Panicum hemitomon*), water primrose (*Ludwigia peploides*), duck potato (*Sagittaria latifolia*), Roseau cane (*Phragmites autralis*), and cattail (*Typha latifolia*).

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Nuisance Aquatic Vegetation Problems:

Plant growth projections for summer 2013:

Water hyacinth, alligator weed, water primrose, and American lotus may cover up to 15 acres total throughout the lake.

Proposed Control Measures for 2013:

Spray herbicides will be used to control floating and emergent plants throughout the lake as needed.

Biological Control

Not needed–

Chemical Control

Foliar herbicide applications on Spanish Lake will be conducted as needed by LDWF spray crews in 2013. Herbicides applied will be 2,4-D (0.5 gallons per acre) for water hyacinth, and glyphosate (Aquamaster at 0.75 gallons per acre) for American lotus. A non-ionic surfactant at 0.25 gallons per acre will be added to both herbicides to increase efficacy. Alligator weed and water primrose will be controlled with Imazapyr (0.5 gallons per acre) and Inergy surfactant (0.25 gallons per acre) in areas that are not developed. These species growing along developed shorelines will be treated with imazamox (Clearcast, 0.58 gallons per acre) and Inergy surfactant.

Physical Control

If the control structure is repaired, a drawdown will be recommended for lake bed renovations as stated in the management plan.

Typemaps:

Spanish Lake Vegetation Survey 6-24-2011 - Martin Plonsky

A survey of aquatic vegetation found in Spanish Lake resulted in the conclusion that there is little to no aquatic vegetation in the lake. Very thin amounts of water hyacinth were observed in the vicinity of the boat launch and on the shoreline of the breakwater islands on the eastern side of the lake. The lake water was saturated ("bloom" condition) with planktonic algae and water ph was above 8.0. Small bunches of iris were seen growing along the eastern bank of the lake. Average water depth was 2 feet. The vegetation survey was conducted on the same day we investigated the report of a fish kill at the lake. No dead fish were observed.

Date	Temp	SpCond	Salinity	Depth	pH	Turbidity+	% odo	DO	Chlorophyl
6/24/11	28.18	0.155	0.07	-0.121	9.09	69.5	129.70	10.12	55.8
6/24/11	27.81	0.155	0.07	0.327	8.75	79.8	109.70	8.61	56.0